Vermont Mental Health Performance Indicator Project

DDMHS, Weeks Building, 103 South Main Street, Waterbury, VT 05671-1601 (802-241-2638)

MEMORANDUM

TO: Vermont Mental Health Performance Indicator Project
Advisory Group and Interested Parties

FROM: John Pandiani, Janet Bramley, Sheila Pomeroy, and Monica Simon

DATE: March 30, 2001

RE: NASMHPD Research Conference Presentation

The attached is an extract from the handout for a presentation at the annual NASMHPD Research Conference earlier this year. The purpose of the presentation was to outline the Vermont Performance Indicator Project rationale and illustrate how the process works in practice. The presentation, which involved participation by Vermont Stakeholders (Eldon Carvey, Ted Mable, and Xenia Williams) in addition to PIP project staff (John Pandiani and Steve Banks), was the closing plenary session of the conference.

We look forward to your comments, and questions to jpandiani@ddmhs.state.vt.us or 802-241-2639.

INTERPRETING DATA FROM DIFFERENT POINTS OF VIEW:

TALKING ABOUT WHAT WE KNOW

(NOT WHAT WE DON'T KNOW)

THE VERMONT PERFORMANCE INDICATOR PROJECT

John A. Pandiani, Ph.D.
Chief of Research and Statistics
Vermont Department of Developmental
and Mental Health Services
jpandiani@ddmhs.state.vt.us

Steven M. Banks, Ph.D.
The Bristol Observatory
521 Hewitt Road,
Bristol, Vermont
bristob@together.net

Eldon Carvey, M.Ed.
Executive Director
NAMI-Vermont
NAMIVT@sover.net

Xenia Williams, M.A.
Consumer/Survivor/Case Manager
Washington County
Mental Health Services
xeniaw@wcmhs.org

Ted Mable, Ph.D.
Executive Director
Northwest Counseling
and Support Services
tmable@ncssinc.org

MATERIALS

I. Introduction to the Vermont PIP (Performance Indicator Project)

II. Selected Weekly PIP Data Reports

Clients in Trouble with the Law (November 17, 2000)
Hospitalization Outcomes (March 12, 1999)
Overall Hospitalization Rates 1990-1998 (August 18, 2000)
Utilization of Atypical Antipsychotic Medication (January 12, 2001)
Access to Adult Mental Health Services: The Population as a Whole (January 19, 2001)
Access to Adult Mental Health Services: Specified Special Populations (January 26, 2001)

III. Probabilistic Population Estimation of Caseload Size and Overlap and Related Reading

V. Performance Indicators On Line

Presentation / Discussion at
The 2001 NASMHPD Conference
on State Mental Health Agency Services Research, Program Evaluation, and Policy
Moving Mental Health Services, Research, and Policy Forward:
"How Do We Stop Having the Same Conversations?"
February 13, 2001 - Omni Shoreham Hotel - Washington D.C.

This project was supported, in part, by a Center for Mental Health Services Sixteen State Indicator Pilot Project grant #5HR1SM52625-03. This report reflects the views and opinions of the authors. It does not necessarily reflect the official position or policy of CMHS, SAMHSA, or HHS.

For more than four years, the Vermont Performance Indicator Project has been distributing quantitative measures of mental health program and service system performance on a weekly basis. These mini data reports are mailed directly to a broad stakeholder community that includes consumers, advocates, service providers, as well as program managers and data analysts from state level mental health, health, and other state agencies. These weekly reports are specifically designed to develop a data based culture, and a pattern of rational factual thinking about our system of care.

Four times a year, representatives of these diverse stakeholder groups meet together to discuss the meaning of the findings, next questions, and the quality of the data behind the reports. This conversation is core to Vermont's attempt to develop a data friendly culture. The conversation differs from the traditional in at least four ways. It is data based, incremental, strengths based, and perspectivistic.

The conversation is data based in that it begins with what we know now and moves from factual knowledge to next questions, rather than working from assumptions and suppositions to first questions. In order to do this, the process is based almost exclusively on existing data resources (data we have laying around the house) rather than embarking on time consuming and expensive new data collection initiatives.

The conversation is incremental in that it answers one small question at a time, carefully considers the results, and then moves on to another small question. As answers to small questions accumulate, they are compared and potential patterns are considered and discussed.

The conversation strives to remain "strengths based" in that it focuses on what the findings tell us, not on other important questions and issues that are not addressed. Methodologically, the conversation focuses on the strengths of research methods, not their weaknesses. We always try not to let "the perfect" be the enemy of "the good".

Finally, the conversation is perspectivistic. Each participant in the discussion recognizes and respects that fact that others may interpret findings differently, and may in fact find the same findings to be relevant to very different questions. Openness to different interpretations is essential to the development of a data based culture of learning about our system of care.

During its first three years, the Vermont Performance Indicator Advisory Groups used the approach to arrive at a set of specific recommendations regarding quantitative indicators of the performance of mental health programs and the mental health service delivery system as a whole. These recommendations are available on-line at:

http://www.state.vt.us/dmh/Data/PIPs/pipindex.htm

These recommendations separately consider performance indicators in three domains: Treatment Outcomes, Practice patterns, and Access to Care. In each domain, the Advisory Group recommended that indicators be published on an annual basis and that the indicators be presented for the most recent year and historically to the extent that the data are available. Indicators should be published for the community mental health service delivery system as a whole, and for the children's and adult mental health components separately. Within the adult mental health component, indicators should also be published separately for distinct programs as appropriate. Indicators should be published for the state as a whole and for each of the state's service areas. Whenever possible, indicators should also be calculated for the general population for purposes of comparing people who receive services with the general population of the community.

All indicators should be computed for all clients served, for distinct age and gender categories, and for specified target populations. Whenever possible, performance on outcome

indicators should be compared to the same indicators prior to treatment, and to indicators of practice patterns (services received).

Specified target populations for adult mental health programs should include major diagnostic categories. Specified target populations for children's mental health programs should include children and adolescents in SRS custody, children and adolescents receiving special education services for emotional-behavioral disorders, and children and adolescents enrolled in the Medicaid program.

Composite "kite diagrams" of indicators of treatment outcomes should be prepared for each program at each provider.

A formal report that includes the measures specified above should be prepared by DDMHS on an annual basis and be made available to all stakeholder groups, including consumers, providers, advocate organizations, mental health and other state agency staff, schools, local and statewide program standing committees, and legislators. In addition, all performance indicators should be accessible through the DDMHS World Wide Web home page:

http://www.state.vt.us/dmh/Data/PIPS/pips.htm

Published indicators of treatment outcomes should specify levels of significance and include detailed methodological appendices on data sources and analytical methods. Stakeholders (providers, consumers, and others) should be given the opportunity to comment on the performance indicators and to provide interpretation of the results and DDMHS should respond.

This presentation/demonstration/discussion will attempt to recreate the process and spirit Vermont's ongoing data based conversation about mental health program performance by presenting and discussing data on variation in access to care, treatment outcomes, and patterns of service delivery for Vermont's ten regional programs for adults with severe and persistent mental illnesses. Findings in each of these areas will be interpreted by mental health consumers, service providers, and advocates, and by other people who attend this session.

The presentation will begin with a brief discussion of the philosophy and process data dissemination in Vermont. Participants (and members of the audience) will then be asked to introduce themselves with their name, their stakeholder category, and their answer to the question:

"How do you know a good performance indicator when you see one?"
(What criteria do you use to identify good performance indicators?)

The session will continue with the presentation and discussion of selected indicators of treatment outcomes, and practice patterns. The philosophy of the project will be discussed briefly, as will Probabilistic Population Estimation, the statistical methodology that underlies the production of many of these indicators. Finally the presentation will close with the presentation and discussion of a multifaceted approach to measuring access to care.

Related Reading

A Global Measure of Access to Mental Health Services for a Managed Care Environment. *Journal of Mental Health Administration*, Summer 1997. (Pandiani, Banks, & Gauvin)

A Methodology for Probabilistically Estimating Caseload Size and Overlap. The Evaluation Center @HSRI, January 1999 (Banks & Pandiani)

A Risk Adjusted Measure of Hospitalization Rates for Evaluating Community Mental Health Program Performance*. Administration and Policy in Mental Health*, March, 1999. (Pandiani, Banks, Schacht, & Gauvin)

After Children's Services: A Longitudinal Study of Significant Life Events. *Journal of Emotional and Behavioral Disorders*, Forthcoming (Banks, Pandiani, & Schacht)

Age and Mortality Among Problem Drinkers. *Addiction*. August 2000 (Banks, Pandiani, Schacht, & Gauvin)

Approaches to Risk Adjusting Outcome Measures Applied to Criminal Justice Involvement after Community Service. *Journal of Behavioral Health Services and Research*. Forthcoming (Banks, Pandiani, & Bramley)

Bed Closures and Incarceration Among Users of VA Behavioral Health Services in Upstate New York. *Mental Health Services and Research*, October 2000 (Rosenheck, Banks, Pandiani, & Hoff)

Caseload Segregation/Integration: A Measure of Shared Responsibility for Children and Adolescents. *Journal of Emotional and Behavioral Disorders*, Summer 1999 (Banks, Pandiani, & Schacht)

Consumer Satisfaction and Treatment Outcomes: Dissatisfaction with Mental Health Services and Incarceration after Treatment. *Administration and Policies in Mental Health*, Forthcoming (Pandiani, Schacht, & Banks)

Does Closing Inpatient Beds in One Public Mental Health System Result in Increased Use of Inpatient Services in Other Systems? *Psychiatric Services*, Forthcoming (Rosenheck, Banks, & Pandiani)

Elevated Risk of Being Charged with a Crime for People with a Severe and Persistent Mental Illness. *Justice Research and Policy,* Fall 2000 (Pandiani, Banks, Clements, & Schacht)

Personal Privacy vs. Public Accountability: A Technological Solution to an Ethical Dilemma. *Journal of Behavioral Health Services and Research*, November 1998. (Pandiani, Banks, & Schacht)

Practice Patterns and Hospitalization Rates: A Statewide Program Evaluation. *Administration and Policy in Mental Health*, September, 1998. (Banks, Pandiani, Gauvin, Reardon, Schacht, & Zovistoski)

Probabilistic Population Estimation of the Size and Overlap of Data Sets Based on Date of Birth. *Statistics in Medicine*, Forthcoming (Banks & Pandiani).

The Use of State and General Hospitals for Inpatient Psychiatric Care. *American Journal of Public Health*, March 1998. (Banks & Pandiani)

Utilization of Local Jails and General Hospitals by State Psychiatric Center Patients. *The Journal of Behavioral Health Services and Research*, November 2000 (Banks, Stone, Pandiani, Cox, & Morchauser)

Using Incarceration Rates to Measure Mental Health Program Performance. *Journal of Behavioral Health Services and Research*, August 1999. (Pandiani, Banks, & Schacht)

METHODOLOGICAL NOTE

PROBABILISTIC POPULATION ESTIMATION

Probabilistic Population Estimation is a statistical procedure that determines the number of people (with known confidence intervals) who are represented in data sets that do not contain unique person identifiers. Probabilistic Population Estimation uses information on the distribution of birth dates in a data set to determine the number of people represented in the data set. The number of people necessary to produce the number of birthdays observed in a single birth year cohort, for instance, would be calculated using the following formula:

$$P_j(l_j) = \sum_{i=1}^{l} \frac{365}{365-i}$$

where "P_j" is the number of people and "i" is the number of birth dates observed. Similar logic is used to determine the number of people who appear in more than one data set. The table below provides illustrative results of Probabilistic Population Estimation for populations of specified size.

Population Estimates for Specified Numbers of Birth Dates Within a Year

Birth Dates	Number of People	Birth Dates	Number of People
1	1.003 ± .103	180	249 ± 20
10	10.15 ± .776	250	423 ± 38
20	20.6 ± 1.54	300	632 ± 64
50	54. ± 4	330	860 ± 101
100	117. ± 9	360	1630 ± 325

POPULATION OVERLAP

In order to probabilistically determine the number of people shared across data sets that do not include a common person identifier, the sizes of three populations are determined and the results are compared. The number of people in each of the original data sets are the first two populations. The number of people in a data set that is formed by combining the two original data sets is the third data set.

The number of people who are shared by the two data sets is the difference between the sum of the numbers of people represented in the two original data sets and the number of people represented in the combined data set. This occurs because the sum of the number of people represented in the two original data sets includes a double count of every person who is represented in both data sets. The number of people represented in the combined data set does not include this duplication. The difference between these two numbers is the size of the duplication between the two original data sets, the size of the caseload overlap. In terms of mathematical set theory, the intersection of two sets is the difference between the sum of the sizes of the two sets (A+B) and the union of the two sets ($A \cup B$):

$$(A \cap B) = (A + B) - (A \cup B).$$

PERFORMANCE INDICATORS ON LINE

Below is a link to the index for all of the on line PIPs

http://www.state.vt.us/dmh/Data/PIPS/pips.htm

SELECTED WEEKLY PIP DATA REPORTS
THAT WERE PART OF THE HANDOUT

Clients in Trouble with the Law (November 17, 2000)

http://www.state.vt.us/dmh/Data/PIPs/2000/pip111700.pdf

Hospitalization Outcomes (March 12, 1999)

http://www.state.vt.us/dmh/Data/PIPs/1999/pip031299.pdf

Overall Hospitalization Rates 1990 – 1998 (August 18, 2000)

http://www.state.vt.us/dmh/Data/PIPs/2000/pip081800.pdf

Utilization of Atypical Antipsychotic Medication (January 12, 2001)

http://www.state.vt.us/dmh/Data/PIPs/2001/pip011201.pdf

Access to Adult Mental Health Services: The Population as a Whole (January 19, 2001)

http://www.state.vt.us/dmh/Data/PIPs/2001/pip011901.pdf

Access to Adult Mental Health Services: Specified Special Populations (January 26, 2001)

http://www.state.vt.us/dmh/Data/PIPs/2001/pip012601.pdf